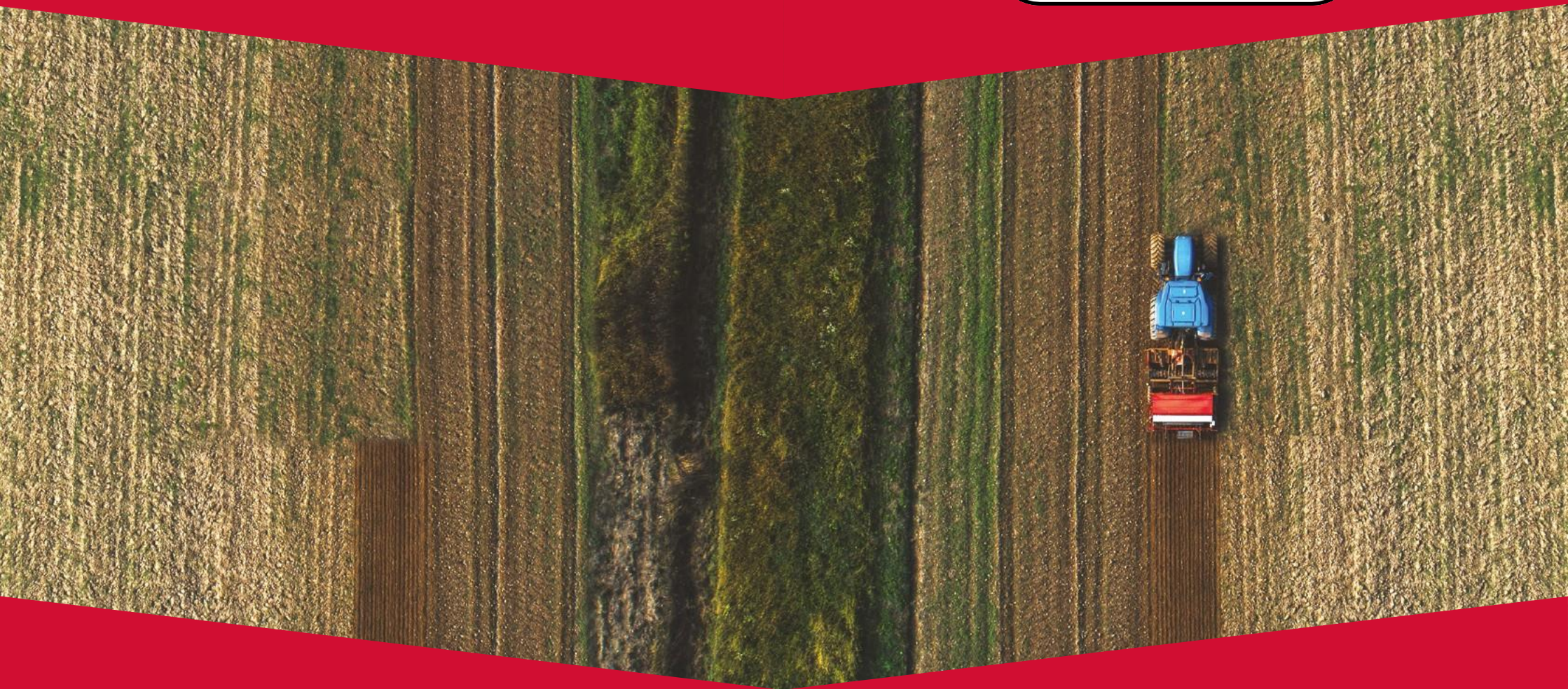


Driving precision agriculture



ROJ





# PCS FS

## Control system for pneumatic and mechanical seed drills

PCS FS is the pneumatic and mechanical seed drill control system developed by ROJ. This system is a new entry in the ROJ agricultural product range and benefits from the experience acquired with the PCS 200 system, developed for pneumatic precision planters.

### DMD

The PCS FS system, based on ROJ DMD motors, is controlled by the PCS FS ECU. The system can be scaled up adding extra seed distributors units, as well as fertiliser hopper distributors.



## AGRI Mate

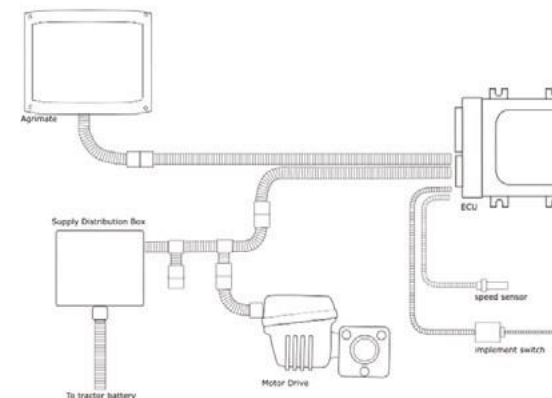
The easy-to-use PCS Agri Mate user interface allows you to configure and monitor the seeding job, providing all the necessary information at a glance.



### Key features

- Easy-to-use touch screen display
- Possibility to modify product quantity from the tractor cab
- Distributor pre-fill
- Calibration procedure and seeding test
- Partial and total hectare counter
- Hopper level monitoring
- Electronic rpm sensor with high/low pressure alert
- Tramline function
- Seeding job log on USB key for invoicing and statistical analysis
- Up to 4 motor groups with independent settings

### Basic system connection diagram





# PCS 150

## Transplanter control system

PCS 150 is the transplanter control system developed by ROJ. The aim of the system is to **replace the mechanical movement** of the distributor with an **electric motor** to achieve **greater operational flexibility** and provide **new functions** that are not possible with mechanical transmission.

## DMD

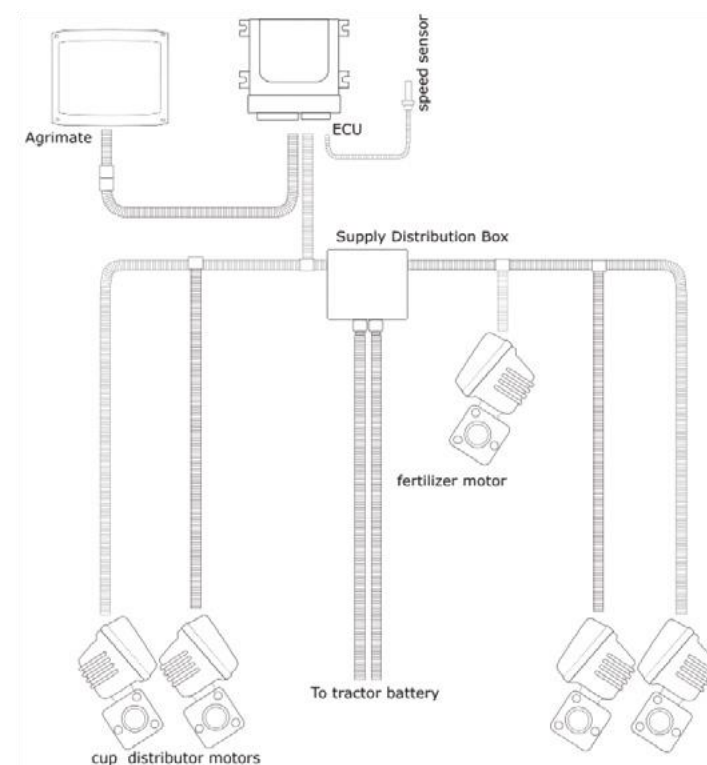
The PCS 150, based on **ROJ DMD** motors, is controlled by the PCS 150 ECU. It can be scaled up adding extra fertiliser hopper distributors.



## Key features

- Cam profile movement to make it easier to place the plant on the distributor
- USB key log for invoicing and statistical analysis
- Fertiliser and micro-granular management
- Support for alternator and battery use with high number of rows
- Optional plant counter and presence sensor

## Basic system connection diagram







# PCS 200

## Pneumatic precision planter control system

PCS 200 is the ROJ pneumatic precision planter control system. It allows you to **replace the mechanical transmission** of seeding discs with an electric motor to achieve **greater machine flexibility** and provide **new functions** which are not possible with the mechanical transmission.

### DMD

The PCS 200 system, based on **ROJ DMD** motors, is controlled by the PCS 200 ECU. The system can be scaled up adding extra seed distributor units as well as fertiliser hopper distributors, covering **virtually any machine configuration**.

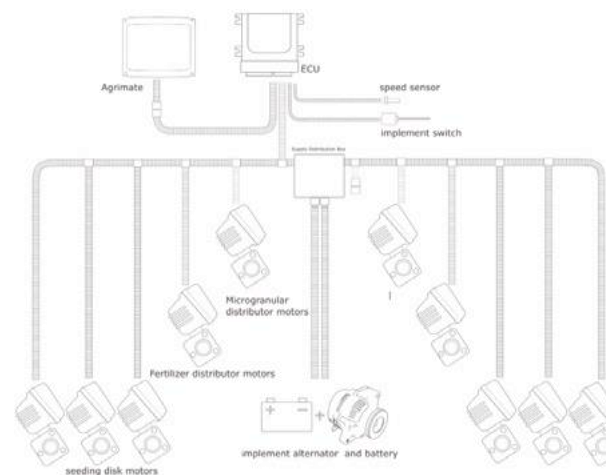


PCS 200 can be also applied to **vegetable planters**. Thanks to the **individual row population settings**, it is possible increase seed population on external rows and achieve higher yields.

## Key features

- Easy-to-use colour touch screen display
- Manual section control
- Individual row population setting
- Seed monitoring
- Vacuum pressure sensor control
- Tramline function
- Seed job log on USB key

## Basic system connection diagram



Agri Mate



ECU



### Kit for motorised hoppers with wireless control

ROJ has developed **Agri-Motion X-tend**, a kit that allows to manage seeding and fertilization with a wireless mode, **widening the range of possible applications**, thanks to the extension of control to **more than one motor**.

#### DMD-0

X-tend is based on the **Agri-Motion DMD 0** system, a highly reliable **12V brushless motor** with **integrated drive board and gearbox**.



### Installation

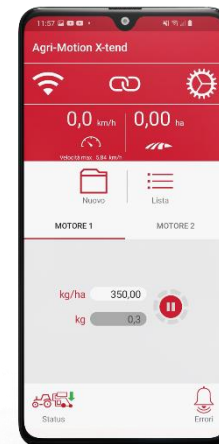
The X-tend kit can be installed in a short time and allows to control more than one hoppers via mobile phone or tablet.

The configuration menu allows you to calibrate the speed sensor and the distributor volume.

The main screen shows, for each motor, the working speed, the quantity of product distributed per hectare and the hopper status.

### Connection

Distribution target rates and resulting task data can be easily exchanged by means of **X-TEND Connect** app and transferred to any Farm Management System through **Agrirouter**.



### Main features:

- Application compatible with Android and iOS devices
- Improved user experience
- Guided machine configuration
- Possibility of changing the quantity and density of the product being distributed for each motor
- Operating speed indicator
- Seed sensor and distributor calibration
- Partial hectare counter
- Estimate of quantity of product distributed
- Warning and error notifications



#### DMD-2

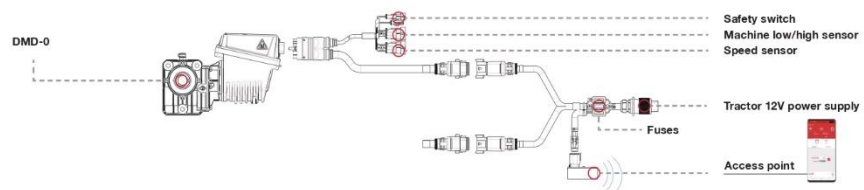
According to your needs, the X-tend kit is also available alternatively with the **Agri-Motion DMD 2**, a **compact and cost-effective motor** designed for **low-power applications**.



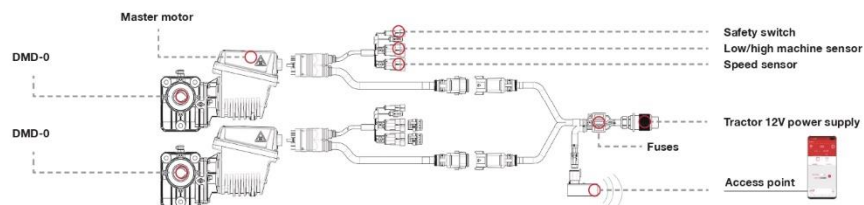


For wireless seeding and fertilisation management with extended control to more than one engine

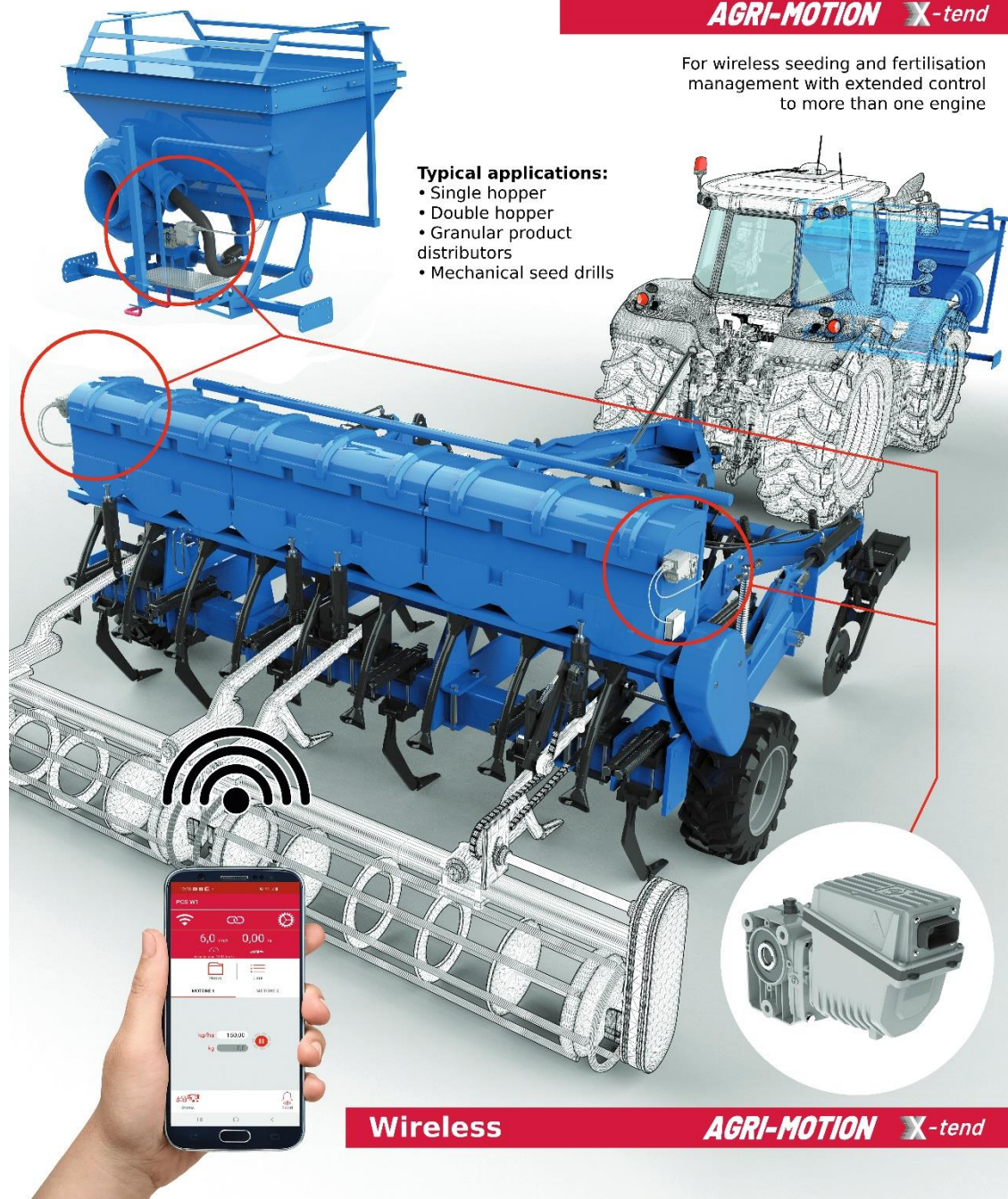
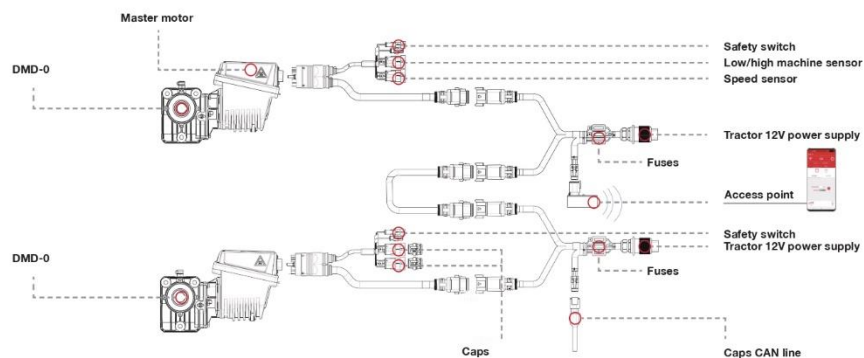
### AGRI-MOTION X-TEND 1



### AGRI-MOTION X-TEND 2 R



### AGRI-MOTION X-TEND 2 R/F







## NEW MOTORS

DMD-2 24V

DMD-2 48V

Increasing the number of seeding rows and the distance of the utilities from the battery requires diversifications for the power supply. In addition to the 12V, ROJ can supply the new DMD2 variants for 24V or 48V, that can be found in the latest generation of tractors.

### Main advantages

- For the same motor power, the 48V system uses 1/4 of the current, reducing problems related to the voltage drop
- For the same current consumption, several motors can be connected to the 48V system, increasing the total power installed on the machine



ROJ



## NEW MOTOR

DMD-4x

With the standard gearbox set, the DMD-4x series cover the range from 10 Nm to 26 Nm at a nominal speed of 100rpm, ensuring versatility and high performance. The DMD-4x series stands out for its high efficiency motors, requiring lower power compared to old brushed motors. This not only saves energy but also simplifies the electric architecture of your machine.

### Main advantages

- Rugged motor for Agriculture applications
- CAN communication ready for J1939 and ISOBUS communication protocol
- ROJ Support on Agtech Applications
- ROJ support on proper fitting motor
- Integrated motor driver (no needs of additional ECU or harness structure)
- More accurate control of the doser (direction inversion, torque control, etc.)







# Applications

ROJ Agri-Motion **DMD-0**, **DMD-2** and **DMD-4x** are brushless motor with integrated electronics and gearbox, developed specifically for agricultural applications.

These motors can be used on any type of agricultural application where it is necessary to dynamically control a mechanical shaft, a hopper distributor or a seeding disk.

**ROJ** motors can be controlled through a PCS ECU control unit and the AgriMate touch-screen terminal, or through a mobile device, thanks to the **Agri-Motion X-tend** app.

The great flexibility of **ROJ DMD** motors has allowed to use it in many applications, often carried out independently by our customers. Here are some examples.



## Belt potato planter

Developed by **Kramer** (Netherlands), it allows to plant potatoes by controlling the distance directly from the terminal of the **PCS 150** system.

**KRAMER**



## 3 row, wireless controlled precision planter

Designed by **Martin Wiethaler** (Germany), allows to control the planting job by means of the **Agri-Motion X-tend** kit.

Biogemüsebau  
**WIETHALER**



## Vegetable precision planter

Another application from **Kramer** (Netherlands). It allows to control the whole planting and fertilization process directly from the terminal of the **PCS 200** system. The control of the **individual planting distance** for each planter row allows to maximize the production.

**KRAMER**



## Kongskilde front hopper

Integration carried out by **Zusso Diego S.r.l** (Italy), it allows to control by smartphone the distribution of granular fertilizer, thanks to the use of the **Agri-Motion X-tend** system.

**ZUSSO DIEGO**



## Sulfur System

This system, developed thanks to the partnership with the company **Fertisystem** (Brazil), allows to distribute a special sulfur-based fertilizer in an **extremely accurate way**.

**FertiSystem**  
by AGROMAC